

# HOSPITAL APPOINTMENT SQL QUERIES

## OVERVIEW

### A. INSPECTING DATA

```
SELECT * FROM Hospital_Appointment;
```

	Name	Age	Gender	Blood_Type	Medical_Condition	Date_of_Admission	Doctor	Hospital	Insurance_Provider	Billing_Amount	Room_Number	A
1	Bobby JacksOn	30	Male	B-	Cancer	2024-01-31	Matthew Smith	Sons and Miller	Blue Cross	18856.28125	328	L
2	LesLie TErFy	62	Male	A+	Obesity	2019-08-20	Samantha Davies	Kim Inc	Medicare	33643.328125	265	E
3	DaNnY sMtH	76	Female	A-	Obesity	2022-09-22	Tiffany Mitchell	Cook PLC	Aetna	27955.095703125	205	E
4	andrEw waTTS	28	Female	O+	Diabetes	2020-11-18	Kevin Wells	Hernandez Rogers and Vang.	Medicare	37909.78125	450	E
5	adriENNE bEl	43	Female	AB+	Cancer	2022-09-19	Kathleen Hanna	White-White	Aetna	14238.3173828125	458	L
6	EMILY JOHN...	36	Male	A+	Asthma	2023-12-20	Taylor Newton	Nunez-Humphrey	UnitedHealthcare	48145.109375	389	L
7	edwArD EDW...	21	Female	AB-	Diabetes	2020-11-03	Kelly Olson	Group Middleton	Medicare	19580.873046875	389	E
8	CHisTInA MA...	20	Female	A+	Cancer	2021-12-28	Suzanne Thomas	Powell Robinson and Valdez,	Cigna	45820.4609375	277	E
9	JASmInE aGu...	82	Male	AB+	Asthma	2020-07-01	Daniel Ferguson	Sons Rich and	Cigna	50119.22265625	316	E
10	ChRISTopher ...	58	Female	AB-	Cancer	2021-05-23	Heather Day	Padilla-Walker	UnitedHealthcare	19784.630859375	249	E
11	mlchELLe dani...	72	Male	O+	Cancer	2020-04-19	John Duncan	Schaefer-Porter	Medicare	12576.7958984375	394	L

### B. UPDATING TABLE TO ADD LOS

```
ALTER TABLE Hospital_Appointment
```

```
ADD length_of_stay INT;
```

```
UPDATE Hospital_Appointment
```

```
SET length_of_stay = DATEDIFF(
```

```
DAY, date_of_admission, discharge_date);
```

### C. TOTAL REVENUE

```
SELECT ROUND(SUM(billing_amount), 2) AS Total_Revenue
```

```
FROM Hospital_Appointment;
```

	Total_Revenue
1	1417389340.33

### D. Cost by Medical Condition

```
SELECT medical_condition,
```

```
COUNT(*) AS patients,
```

```
ROUND(AVG(billing_amount), 2) AS avg_cost
```

```
FROM Hospital_Appointment
```

```
GROUP BY medical_condition
```

```
ORDER BY avg_cost DESC;
```

	medical_condition	patients	avg_cost
1	Obesity	9231	25805.97
2	Diabetes	9304	25638.41
3	Asthma	9185	25635.25
4	Arthritis	9308	25497.33
5	Hypertension	9245	25497.1
6	Cancer	9227	25159.89

## E. TYPE OF ADMISSION AND COUNT OF MEDICAL CONDITION

```
SELECT admission_type,
       COUNT(*) AS cases,
       AVG(length_of_stay) AS avg_stay
  FROM Hospital_Appointment
 GROUP BY admission_type;
```

	admission_type	cases	avg_stay
1	Elective	18655	15
2	Urgent	18576	15
3	Emergency	18269	15

```
SELECT Medical_Condition, COUNT(*) AS CASE_COUNT
  FROM Hospital_Appointment
 GROUP BY Medical_Condition
 ORDER BY CASE_COUNT DESC;
```

	Medical_Condition	CASE_COUNT
1	Arthritis	9308
2	Diabetes	9304
3	Hypertension	9245
4	Obesity	9231
5	Cancer	9227
6	Asthma	9185

## FINANCIAL IMPACT

### F. INSURANCE PROVIDERS IMPACT

```
SELECT insurance_provider,
       ROUND(SUM(billing_amount), 2) AS total_cost
  FROM Hospital_Appointment
 GROUP BY insurance_provider
 ORDER BY total_cost DESC;
```

	insurance_provider	total_cost
1	Cigna	287139345.27
2	Medicare	285678055.13
3	Blue Cross	283254294.21
4	UnitedHealthcare	282454542.79
5	Aetna	278863102.92

## G. AGE to COST IMPACT

```

SELECT
CASE
    WHEN age < 30 THEN 'Under 30'
    WHEN age BETWEEN 30 AND 49 THEN '30-49'
    WHEN age BETWEEN 50 AND 59 THEN '50-59'
    ELSE '60+'
END AS age_group,
COUNT(*) AS patient_count,
ROUND(AVG(billing_amount), 2) AS avg_billing,
AVG(length_of_stay) AS avg_stay
FROM Hospital_Appointment
GROUP BY age
ORDER BY avg_billing DESC;

```

	age_group	patient_count	avg_billing	avg_stay
1	Under 30	18	31664.69	13
2	Under 30	28	30000.73	15
3	Under 30	14	29017.38	18
4	60+	41	27487.95	16
5	Under 30	32	27202.88	15
6	30-49	897	26890.83	15
7	30-49	792	26646.1	15
8	50-59	887	26597.52	15
9	Under 30	772	26494.02	15
10	60+	836	26442.07	15
11	30-49	806	26336.92	15
12	60+	816	26323.4	15
13	60+	778	26283.65	15
14	30-49	821	26067.95	15
15	Under 30	790	26023.56	15

## H. COST BY ADMISSION TYPE

```

SELECT
admission_type,

```

```

COUNT(*) AS cases,
ROUND(AVG(billing_amount), 2) AS avg_cost,
ROUND(AVG(length_of_stay), 1) AS avg_stay
FROM Hospital_Appointment
GROUP BY admission_type;

```

	admission_type	cases	avg_cost	avg_stay
1	Elective	18655	25602.23	15
2	Urgent	18576	25516.44	15
3	Emergency	18269	25497.4	15

### I. LENGTH OF STAY BY COST

```

SELECT
length_of_stay,
COUNT(*) AS No_of_Patients,
ROUND(AVG(billing_amount), 2) AS avg_cost
FROM hospital_appointment
GROUP BY length_of_stay
ORDER BY length_of_stay DESC;

```

	length_of_stay	No_of_Patients	avg_cost
1	30	1874	25385.38
2	29	1867	24803.92
3	28	1853	25795.11
4	27	1884	25489.47
5	26	1819	25558.6
6	25	1864	25277.97
7	24	1759	25823.47
8	23	1866	25909.97
9	22	1784	25394.88
10	21	1959	25435.7
11	20	1907	25881.44
12	19	1890	25125.44
13	18	1819	24795.85
14	17	1818	25377.35
15	16	1757	25735.81
16	15	1785	25701.13
17	14	1909	26286.29
18	13	1864	24943.19
19	12	1843	25499.9
20	11	1895	25118.4
21	10	1802	25434.42
22	9	1868	25558.2

## J. INSURANCE PROVIDERS COST BURDEN

SELECT

```
Insurance_Provider,  
COUNT(*) AS No_Of_Patients,  
ROUND(SUM(billing_amount), 2) AS Total_Billing,  
ROUND(AVG(billing_amount), 2) AS Avg_Billing  
FROM Hospital_Appointment  
GROUP BY Insurance_Provider  
ORDER BY Total_Billing DESC;
```

	Insurance_Provider	No_Of_Patients	Total_Billing	Avg_Billing
1	Cigna	11249	287139345.27	25525.77
2	Medicare	11154	285678055.13	25614.46
3	Blue Cross	11059	283254294.21	25613.01
4	UnitedHealthcare	11125	282454542.79	25389.17
5	Aetna	10913	278863102.92	25553.29

## DOCTORS WORKLOAD

### K. DOCTORS WORKLOAD

SELECT TOP 10

```
Doctor,  
COUNT(*) AS No_of_Patients,  
ROUND(AVG(length_of_stay), 1) AS avg_stay,  
ROUND(AVG(billing_amount), 2) AS avg_cost  
FROM Hospital_Appointment  
GROUP BY Doctor  
ORDER BY No_of_Patients DESC;
```

	Doctor	No_of_Patients	avg_stay	avg_cost
1	Michael Smith	27	15	29055.62
2	Robert Smith	22	13	28854.23
3	John Smith	22	14	27732.25
4	James Smith	20	17	23090.9
5	Michael Johnson	20	18	23040.95
6	Robert Johnson	19	13	27589.11
7	David Smith	19	15	24912.93
8	Michael Williams	18	15	17171.73
9	Matthew Smith	17	13	24790.3
10	Christopher Smith	17	13	19929.48

## L. ROOM EFFICIENCY

```
SELECT TOP 10  
    Room_Number,  
    COUNT(*) AS No_of_Patients,  
    ROUND(AVG(length_of_stay), 1) AS avg_stay  
FROM Hospital_Appointment  
GROUP BY Room_Number  
ORDER BY avg_stay DESC;
```

	Room_Number	No_of_Patients	avg_stay
1	172	130	17
2	461	148	17
3	307	130	17
4	313	140	17
5	316	135	17
6	114	135	17
7	192	134	16
8	407	120	16
9	232	139	16
10	278	135	16

## M. IMPACT OF ABNORMAL TEST

```
SELECT  
    test_results,  
    COUNT(*) AS patients,  
    ROUND(AVG(billing_amount), 2) AS avg_cost  
FROM Hospital_Appointment  
GROUP BY test_results;
```

	test_results	patients	avg_cost
1	Abnormal	18627	25538.35
2	Normal	18517	25456.65
3	Inconclusive	18356	25622.76

## N. IDENTIFICATION OF PATIENT WITH HIGH RISK

```
SELECT Name, Hospital, Billing_Amount, Medical_Condition, Admission_Type, Test_Results,  
(CASE WHEN age >= 60 THEN 2 ELSE 0 END +  
CASE WHEN Medical_Condition IN ('Cancer', 'Diabetes', 'Asthma') THEN 3 ELSE 0 END +  
CASE WHEN Admission_Type = 'Emergency' THEN 2 ELSE 0 END +  
CASE WHEN Test_Results = 'Abnormal' THEN 2 ELSE 0 END
```

) AS Risk\_Score

FROM Hospital\_Appointment;

	Name	Hospital	Billing_Amount	Medical_Condition	Admission_Type	Test_Results	Risk_Score
1	Bobby JacksOn	Sons and Miller	18856.28125	Cancer	Urgent	Normal	3
2	LesLie TErRy	Kim Inc	33643.328125	Obesity	Emergency	Inconclusive	4
3	DaNnY sMitH	Cook PLC	27955.095703125	Obesity	Emergency	Normal	4
4	andrEw waTtS	Hernandez Rogers and Vang,	37909.78125	Diabetes	Elective	Abnormal	5
5	adriENNE bEl	White-White	14238.3173828125	Cancer	Urgent	Abnormal	5
6	EMILY JOHNSOn	Nunez-Humphrey	48145.109375	Asthma	Urgent	Normal	3
7	eduAcD EDWzRDn	Group Middleton	19590.972046975	Diabetes	Emergency	Inconclusive	5